

USSR

ACCESSION NR: AP4001557

S/0286/63/000/016/0017/0017

AUTHOR: Mironov, V. F.; Maksimova, N. G.

TITLE: Preparative method for organotrichlorosilanes such as vinyltrichlorosilane. Class 12, No. 156554

SOURCE: Byul. izobret. i tovarn. znakov, no. 16, 1963, 17

TOPIC TAGS: organosilanes, organotrichlorosilanes, silane, trichlorovinyl-, naphthenes, paraffins, trichlorosilane condensation, vinyltrichlorosilane synthesis

ABSTRACT: An Author Certificate has been granted for a method of preparing organotrichlorosilanes, e.g., vinyltrichlorosilane, by the condensation of trichlorosilane with mixtures of paraffins or cycloparaffins at 600—700C in a continuous system.

ASSOCIATION: none

SUBMITTED: 14Dec61

DATE ACQ: 02Dec63

ENCL: 00

SUB CODE: CH, MA

NO REF SOV: 000

OTHER: 000

Card 1/1

Organometallic Compounds

USSR

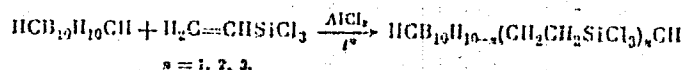
UDC 547.244.245

MIRONOV, V. F., GIRGOS, V. I., PECHURINA, S. YA., and ZHIGACH, A. F.

"Synthesis of a New Class of Silicon Containing Carboranes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, p 2583

Abstract: Up to now, it has been possible to prepare only the C-substituted silicon carboranes. However, the vinylchlorosilanes and the vinylalkylchlorosilanes may be added to o-, m-, and p-carboranes and their derivatives in the presence of aluminum chloride. As shown below, this occurs at the B-H bond of the carborane nucleus with the formation of new B-substituted silicon-containing carboranes.



Structures were confirmed by IR and NMR spectra in mass spectroscopic data.

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1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SELECTIVE REDUCTION OF ORGANOCHLOROSILANES -U-
AUTHOR-(03)-ANTIPIN, L.M., BLEKH, L.M., MIRONOV, V.F.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 812-14
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOSILICON COMPOUND, ORGANIC SILANE, CHLORINATED ORGANIC
COMPOUND, CHEMICAL REDUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1101 STEP NO--UR/0079/70/040/004/0812/0814
CIRC ACCESSION NO--AP0128528

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128528
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THROUGHOUT REACTIONS WERE RUN IN DRY ARGON ATM. MIXING 0.27 MOLE ET SUB2 SICI SUB2 WITH 0.068 MOLE ALCL SUB3 AND 0.075 MOLE NAI GRADUALLY AT REFLUX GAVE 69.3PERCENT ET SUB2 SICI: WITH 0.067, 0.067 AND 0.085 MOLE OF REACTANTS, THE YIELD WAS 32.3PERCENT. SIMILARLY WERE PREPD. 31.9PERCENT MEPR SICI, 11-17PERCENT ME SUB2 SICI, AND 1.5PERCENT ETSICI SUB2. SINCE THE REACTION IS VIGOROUS, IT MUST BE CONTROLLED BY USING EXCESS REAGENT SILANE OR A DILUENT SUCH AS VASELINE OIL. NO R SUB2 SICI SUB2 WERE FOUND. MEPR SICI SUB2 IN THIS REACTION UNDERWENT RAPID DISPROPORTIONATION AND GAVE ME SUB2 SICI SUB2 AND PH SUB2 SICI SUB2, WHICH THEN UNDERWENT PARTIAL REDN. IF NAI IS REPLACED BY NACL THE DISPROPORTIONATION IS INHIBITED, BUT EVEN IN THIS CASE PH SICI SUB3 GAVE 4-7PERCENT PH SUB2 SICI SUB2 AND 0.8PERCENT PH SUB3 SICI. ATTEMPTED REDN. OF R SUB3 SICI GAVE R SUB2 SICI SUB2, R SUB2 SICI, R SUB3 SICI, AND R SUB3 SICI RESIDUE.

UNCLASSIFIED

Acc. Nr. **AP0045144**

Abstracting Service:
CHEMICAL ABST.

Ref. Code

21R0409 /

90589n Reaction of digermazanes with o-carboranes. Svit.
syn. R. A.; Zhigach, A. P.; Sobolev, E. S.; Antipin, L. M.;
Mironov, V. P. (Gos. Nauch.-Issled. Inst. Khim. Tekhnol.
Pribimontorg. Sredin., Moscow, USSR). Khim. Geterotsikl. Soe-
din. 1970, (1), 127-8 (Russ). Heating 4.32 g o-carborane with
10.1 g (Et₃Ge)₂NH 14 hr at 200-300°, then with 1 g added (Et-
Ge)₂NH 12 hr at 300°, gave after treatment with MeOH 50%
1-triethylgermyl-o-carborane, d₄ 1.0940, n_D 1.5483. Similarly,
1-isopropylcarborane gave in 17 hr at 245° with (Et₃Ge)₂NH
27% 1-isopropyl-2-triethylgermylcarborane, n_D 1.5508. 1-
Phenylcarborane in 28 hr at 275° similarly gave 22.5% 1-phenyl-
2-triethylgermylcarborane, n_D 1.5882. G. M. Kosolapoff

REEL/FRAME
19780044

Acc. Nr:

A70049880

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

480020

100802: Transformations of compounds having the Si-N-C-X bonding system. New process for preparing organic and organo-silicon isocyanates. Mironov, V. P.; Shelud'kov, V. D.; Koz'yukov, V. P. (USSR). Dokl. Akad. Nauk SSSR 1970, 190(1), 110-13 [Chem] (Russ). Reaction of 96.6 g allylamine with 79.4 g Me_2SiHCl in Et_2O with cooling gave 51% $\text{HSiMe}_2\text{NHCH}_2\text{CH}=\text{CH}_2$ (I), b. 99-100°, d_4^{20} 0.7704, n_D^{20} 1.4162, and 31 g residual $(\text{HSiMe}_2)\text{NCH}_2\text{CH}=\text{CH}_2$, b. 45-6°, 0.8277, 1.4344. I and H_2PtCl_6 catalyst in iso-PrOH heated 10-15 hr up to 215° gave a polymer, which in MePh was phosgenated at -20°, then at room temp., to yield 63.3% $\text{ClSiMe}_2(\text{CH}_2)_3\text{NCO}$, b. 75-6°, 1.0444, 1.4528, which with H_2O gave 79% $\text{O}[\text{SiMe}_2(\text{CH}_2)_3\text{NCO}]_n$, b. 131-2°, 0.9980, 1.4469. Reaction of liq. COCl_2 similarly with 1,3-bis(γ -trimethylsilylamino)propyldimethylsilylpropane gave 73% 1,3-bis(γ -isocyanopropyldimethylsilyl)propane, b. 175-8°, —, 1.4708, while $\text{Et}_3\text{MeSi}(\text{CH}_2)_3\text{NHSiMe}_2$ and COCl_2 similarly gave 66.5% γ -diethylmethylsilylpropyl isocyanate, b. 57-8°, 0.8963, 1.4478, which with aq. NH_3 gave $\text{Et}_3\text{MeSi}(\text{CH}_2)_3\text{NHCONH}_2$, m. 106-7°. Similarly were run reactions of COCl_2 with MeNHSiEt_2 , $\text{MeN}(\text{SiMe}_2)_2$, $\text{MeNHSiMe}_2\text{NMeSiMe}_2\text{NHMe}$, $\text{CH}_2=\text{CHCH}_2\text{NHSiMe}_2$, and RNHSiMe_2 where R was iso-Bu or Ph. These were best run with 5-10% excess COCl_2 .

G. M. Kosolapoff

REEL / FRAME

19801812

Acc. Nr:

AP0049132

Abstracting Service:
CHEMICAL ABST. 5/10

Ref. Code:

480079

100852] New reactions of tribromogermane. Mironov, V. F.; Berliner, E. M.; Gar, T. K.; Ponomarev, E. A. (USSR). *Zh. Obshch. Khim.* 1970, 40(1), 109-15 (Russ). Mixing 6.75 g acrylic acid with 58.4 g HGeBr_3 , Et_2O at -10° and warming to room temp. gave 38% $\text{Br}_3\text{Ge}(\text{CH}_2)_2\text{CO}_2\text{H}$, m. $100-113^\circ$, which with PBr_3 in 3 hr at 90° gave the acyl bromide, b. 113° , also prepd. from $\text{H}_2\text{C}:\text{CHCOCl}$ and HGeBr_3 , Et_2O in 14% yield. HGeBr_3 , Et_2O stored 2 days and treated with acrylic acid as above gave 41% $\text{Br}_3\text{Ge}(\text{CH}_2)_2\text{CO}_2\text{Et}$, b. 110° , d. 2.1433, n_D^{20} 1.5512. Similar reaction with CH_2O gas gave 39% $\text{Br}_3\text{GeCH}_2\text{OEt}$, b. $71.5-72.5^\circ$, 2.2922, 1.5690. If the reaction mixt. is treated with MeMgCl there is formed 17% $\text{Me}_3\text{GeCH}_2\text{OH}$, b. $56-58.5^\circ$, —, 1.4468, while ethylene oxide gave $\text{Me}_3\text{Ge}(\text{CH}_2)_2\text{OH}$, b. $48-49.5^\circ$, —, 1.4881. Reaction of AcH and HGeBr_3 followed by MeMgCl gave 31% $\text{Me}_3\text{GeCHMeOCHMeGeMe}$, while crude HGeBr_3 treated with thiophene at -10° gave 45% bis(tribromogermanyl)tetrahydrothiophene, m. $76.5-79.5^\circ$. Also reported are: $\text{Br}_3\text{GeCHRCHR}^1\text{CO}_2\text{H}$ (R and R^1 and m.p. shown): H, Me, $75-76.5^\circ$; Me, H, $73-74^\circ$; CO_2H , H, $160.5-161.5^\circ$; Ph, H, $122.5-123.5^\circ$. $\text{HC}:\text{CCO}_2\text{H}$ and GeHBr_3 gave $\text{Br}_3\text{GeCH}_2\text{CH}(\text{CO}_2\text{H})\text{GeBr}_3$, m. $135-137^\circ$. $\text{Br}_3\text{Ge}(\text{CH}_3)\text{COCl}$ could not be isolated by distn. owing to Cl-Br exchange, but blowing the crude product with HBr gave the acyl bromide.

G. M. Kosolapoff

REEL/FRA
19800938

Acc. No. **AP0049131** Abstracting Service: **CHEMICAL ABST.** 5-70 Rel. Code: **WR 0079**

100845j Reaction of germanium and tin tetrachlorides with aluminumalkyl compounds. Antipin, L. M.; Stepin, E. M.; Mironov, V. F. (USSR). *Zh. Obshch. Khim.* 1970, 40(1), 115-13 (Russ). The subject reactions were run in argon atm. GeCl_4 (18.5 g) and 10.9 g EtAlCl_2 in 5 hr at $100-5^\circ$ gave 68.5% GeCl_4 , 85% Et_3GeCl , and 1.1% Et_4GeCl , with some EtGeCl_3 . Adding 59.8 g GeCl_4 to 35.4 g EtAlCl_2 and heating 4.5 hr at $90-100^\circ$ gave 11% GeCl_4 , 85.6% Et_3GeCl , 1.8% Et_4GeCl , and some EtGeCl_3 . Similarly, 12.2 g ethylaluminum sesquichloride and 20.6 g GeCl_4 gave 41.2% GeCl_4 , 84% Et_3GeCl , 5.4% Et_4GeCl , and some EtGeCl_3 ; from equimolar amts. Et_3Al and GeCl_4 were obtained 80.2% Et_3GeCl and traces of the other chlorides. Et_3AlCl and GeCl_4 gave 31.6% GeCl_4 , 85.6% Et_3GeCl , and traces of other chlorides. Heating GeCl_4 and Et_3Ge 18 hr, at 200° gave 80% Et_3GeCl . Treating 10.1 g Et_3Al with 23.2 g SnCl_4 gave 86% Et_3SnCl and 5.9% Et_4SnCl . Adding 18.9 g SnCl_4 to 8.25 g Et_3Al at $10-20^\circ$, holding 2 hr, adding 30 ml CHCl_3 , heating 4.5 hr at $40-50^\circ$, then holding 12 hr gave 6.2 g solid, decompd. 230° , (Et_3SnO), SnCl_4 and Pr_3Al similarly gave 72.2% Pr_3SnCl and 8.1% Pr_4SnCl . SnCl_4 and iso-Bu $_3\text{Al}$ similarly treated gave 74.5% iso-Bu $_3\text{SnCl}$ and 17.6% iso-Bu $_4\text{Sn}$. SnCl_4 and Et_3AlCl gave 40.7% Et_3SnCl , m. 82° . Since alkylation of GeCl_4 by Al compds. stops at Et_3GeCl if the Al compd. is used in deficient amounts, the formation of the other chlorogermans must be attributed to disproportionation reactions. G. M. Kosolapoff

REEL/FRAME
19800937

dr 7

USSR

UDC 538.56:519.25

BELEN'KIY, M.S., MIRONOV, V.L.

"Diffraction Of Optical Radiation By A Mirror Disk In A Turbulent Atmosphere"

Kvantovaya elektronika (Quantum Electronics), Moscow, No 5(11), 1972, pp 38-45

Abstract: The problem is considered of the reflection from a mirror disk of a spherical wave passing a layer of turbulent atmosphere which is described by the Kolmogorov--Obukhov $2/3$ law. The effect is studied of atmospheric turbulence on the magnitude of the average back scattering cross section and its excess over the scattering cross section of a diffusely reflecting disk as a function of the intensity of turbulence at horizontal and inclined paths. It is shown that during an evaluation of the average power of a signal reflected by a diffraction target of large size, it is necessary to take into account the turbulent state of the atmosphere. This paper was reported at the First All-Union Symposium On The Propagation Of Laser Emission In The Atmosphere (Novosibirsk, July 1971). The authors thank V.I. Tatarskiy, Yu. A. Kravtsov, A.I. Kon, and A.G. Vinograd for attention to the work and helpful discussion of the results obtained. 3 fig. 25 ref. Received by editors, 28 Sept 1971

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MIKONOV, V. L.

AMN / 18.11.60 / 10.11.11.73
Dec 73

the error in calculated N should not exceed 15 to 25% for $0.1 < \beta < 0.95$.
Using the same model the authors arrive at theoretical values of $\sigma_m(h)$ which are claimed to be accurate within 15--30%.

Test data confirming the foregoing were obtained in 1969-70 from vertical probes at 5.75 MHz and $r = 50\mu$, with a 12°x120° directions pattern at medium latitudes. Further extensive tests were made at Gorky in 1970 and are to be treated in a subsequent paper.

Mironov, V. L. and S. S. Khmel'tsov,
Laser beam divergence during propagation
in a turbulent atmosphere along an oblique
path, IVUZ Radiofiz. no. 5, 1972, 743-750.

The authors develop expressions which define the turbulence broadening effect on laser propagation in the atmosphere. The general case of an inclined path is treated, requiring that different turbulence characteristics of specific altitude ranges be taken into account. The argument is given in terms of the function $C_n^2(x')$ which is defined as the structural characteristic of refractive index variation over a path length x' . Since this variation has been found to be a function of extended convection, it is convenient to examine C_n^2 directly as a function of altitude h , after the manner proposed by Tatarskiy. Thus for the dynamic boundary layer ($h < 50$ m) this characteristic is given by

$$C_n^2(h) = C_n^2(h_0)(h/h_0)^{-1.75}, \quad (1)$$

where h_0 is some arbitrary transmitter height. At higher altitudes where free convection applies ($h \geq 1$ to 3 km), the relation alters to

$$C_n^2(h) = C_n^2(h_0)(h/h_0)^{-2.75}, \quad (2)$$

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UDC 621.373.826:550.3

BANAKH, V. A., KREKOV, G. M., and MIRONOV, V. L.

"Numerical Investigation of the Degree of Coherence in a Gaussian Beam Field Propagated in a Turbulent Atmosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 191-195 (from RZh--Radiotekhnika, No 10, 1972, Abstract 10D359)

Translation: Results of the computation of the degree of coherence are put in the form

$$\gamma(x, \vec{R}, \vec{\rho}) = \frac{|\Gamma_2(x, \vec{R}, \vec{\rho})|}{\langle I(x, \vec{R} + \vec{\rho}/2) \rangle^{1/2} \langle I(x, \vec{R} - \vec{\rho}/2) \rangle^{1/2}},$$

where Γ_2 is the coherence function in integral form, and $I\langle x, \vec{R} \pm \vec{\rho}/2 \rangle = \Gamma_2(x, \vec{R} \pm \vec{\rho}/2, 0)$ are the average intensities. It is established that no dependence of $\gamma(x, R, \rho, \psi)$ on the position

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BANAKH, V. A., et al., V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl., "Nauka," 1972, pp 191-195

of the observation points relative to the beam center exists up to values of R equal to the diffraction radius of the beam. The length of coherence drops off with increasing focal length of the beam. Three illustrations, bibliography of five. A. I.

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USSR

UDC: 621.378.325

MIRONOV, V. L., PATRUSHEV, G. Ya., Institute of Optics of the Atmosphere,
Siberian Department of the Academy of Sciences of the USSR

"Fluctuations in the Field of a Laser Beam Propagating Through a Turbulent
Atmosphere"

Gor'kiy, IVUZ Radiofizika, Vol 15, No 6, 1972, pp 865-872

Abstract: The paper is a continuation of research utilizing the Kolmogorov spectrum of fluctuations in the index of refraction to calculate the statistical characteristics of the amplitude and phase of a laser beam field. Results are presented from a numerical analysis of the dispersion, and the correlational and structural functions of fluctuations in the logarithm of the amplitude and phase of the field in the cross section of a laser beam propagating in a turbulent atmosphere as a function of the dimensions of the emitter, the conditions of radiation focusing, and the coordinates of the points of observation. The authors thank S. I. Tuzova and S. N. Belovitskiy for assistance with the computations.

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USSR

UDJ 621.378.325

MIRONOV, V.I., KHMELEVTSOV, S.S. [Institute Of Atmospheric Optics, Siberian Branch, AS, USSR]

"Broadening Of A Laser Beam Propagating Along Sloping Course In A Turbulent Atmosphere"

Izv. VUZ: Radiofizika, Vol XV, No 5, May 72, pp 743-750

Abstract: Calculations are presented on the turbulent broadening of a laser beam propagating along sloping courses in the atmosphere where the structural characteristics change with height. The calculations are based on the solution shown in a paper by V.I. Tatarskiy [Preprint AS, USSR. Otdeleniye okeanologii, fiziki atmosfery i geografii, Moscow, 1970] of an equation for a mutual coherence function of the second order, obtained in an approximation of the Markov process. The model selected of the distribution of the structural characteristics of the fluctuations of the refractive index with respect to height corresponds to the unstable temperature stratification in the atmosphere (convection conditions). The graphs obtained for the equivalent distance, which make possible an evaluation of the turbulent broadening during propagation from the bottom upward, take advantage of the results of Tatarskiy's work corresponding 1/2

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MIRONOV, V. L., KHMELEVTSOV, S. S., Izv. VUZ: Radiofizika, Vol XV, No 5, May 72, pp 743-750

to a uniform course. It is shown that with propagation downward, the magnitude of the turbulent broadening has a maximum at a specific height of the transmitter. The authors thank T.D. Ivanov and M.S. Belen'kom for conducting the numerical calculations on an electronic computer. 4 fig. 17 ref. Received by editors, 13 September 1971.

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USSR

MIRONOV, V. P.

"The Language of the 'Dispatcher' Automated Planning System"

Inzh. Mat. Metody v Fiz. i Kibernet. [Engineering Mathematics Methods in Physics and Cybernetics -- Collection of Works], No 2, Moscow, Atomizdat Press, 1973, pp 98-106 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V673)

Translation: An automated planning system (APS) is defined as a combination of functional and controlling subsystems. The former consists of the set of tasks of planning, characterizes the functional structure of the APS and is represented in the form of a directed graph. The latter is designed to control the computer process during the performance of planning tasks, during output of information for decision making concerning planning and other APS operations. The realization of a controlling subsystem for an APS in the form of the "dispatcher" algorithmic language is studied. This language is designed for the control of the operation of a complex of programming systems, the functional structure of which is represented by a functional acyclical graph. Three levels of the language are studied: 1--describes the functional subsystem, fixes the direction of transition between sub-routines in the planning problems; 2--formulates the assignments for the computer and the corresponding information necessary for solution

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MIRONOV, V. P., Inzh. Mat. Metody v Fiz. i Kibernet., No 2, Moscow, Atomizdat Press, 1973, pp 98-106

of a given subproblem, including description of characteristics of the system and of its files; 3--the external language, constructed according to the "question-answer" principle. A brief description of each level of the "dispatcher" language is presented. A. Doroshenko

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USSR

MIRONOV, V. P., SAMARCHENKO, A. T.

"Separation of Homogeneous Groups of Students"

Programmir. obucheniye. Mezhd. nauch. sb. [Programmed Learning. Interdepartmental Scientific Collection], 1973, No 10, pp 33-43 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V283 by the authors)

Translation: An algorithm is studied for grouping of students into statistically homogeneous groups. In stating the problem, it is assumed that each student is characterized by a set of typological characteristics, which are normally distributed. The task of grouping is performed on the basis of the set of all characteristics. The process of grouping consists of two stages: random selection of five elements from the sample (students) and successive attachment of new elements with the corresponding checking of the grouping criterion. The grouping criterion used is a functional, taking on values within limits of the fixed boundaries, if the grouping condition is fulfilled with a fixed probability, and extending beyond the boundaries if the grouping condition is not satisfied with a fixed probability.

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USSR

UDC 550.834:553.982(471.6)

MIRONOV, V. Ya. and STARODVORSKIY, V. S., Krasnodar Trust for Petroleum and Geophysical Prospecting

"The Directional-Reception Method as a Basis for the Summation of Kinematically Corrected Multiple-Tracing Observations"

Moscow, Neftegazovaya Geologiya i Geofizika, No 5, 1972, pp 31-36

Abstract: The article deals with theoretical questions pertaining to the linear nonsimultaneous summation of seismic multiple-tracing materials, with the introduction of kinematic corrections, and the results of such summation are described. Consideration is given to problems of interpretation, the resolving power, the errors, and the regions of application. The merits of such a method of processing are emphasized, and note is taken of its advantageous employment in combination with the common depth point method. 4 figures. 7 references.

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Pesticides

1

USSR

UDC 632.934.1:546.57-386

KUZNETSOV, A. YA., BAYGOZHIN, A., BEYM, I. G., MIRONOV, V. YE.,
Leningrad State Pedagogical Institute imeni A. I. GERTSEN

"Study on the Light Sensitivity and Fungicidal Properties of
Silver Complexes"

Leningrad, Zhurnal prikladnoy Khimii, Vol 64, No 10, Oct 71,
pp 2311-2316

Abstract: Dense shielding of a silver ion by various ligands without reducing properties makes it possible to obtain photo-stable complexes. This study concerns the quantitative aspects of the light sensitivity, thermal stability, and the fungicidal properties of a number of silver compounds with high light sensitivity. The highest light resistance (1 year+) was shown by tris-1,10-phenanthroline perchlorate. The high light resistance is attributed to the dense shielding of the silver ion by three large ligand molecules which hinder the charge transfer to Ag^+ from outer-sphere ions as well as to the low electron donor capacity of the outer-sphere perchlorate ion. It is noteworthy that

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KUZNETSOV, A. YA., et al, Zhurnal prikladnoy Khimii, Vol 64,
No 10, Oct 71, pp 2311-2316

high light resistance is typical of thermally stable compounds. Bis-2,2'-biopyridylsilver nitrate was the only compound to pass the standard tests for biological activity (15 days). Silver complexes with 1,10-phenanthroline and ethylenethiourea also show promise with regard to both light resistance and biological activity. These compounds must be used in the form of nitrates or perchlorates with a co-ordination-saturated inner sphere. Test data on the light resistance and biological activity of complex silver compounds, their formulas, ligands, complex concentration in solution and test durations are given.

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1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THERMODYNAMICS OF HYDROGEN HEXACYANOFERRATE, II -U-
AUTHOR-(03)-LAZAREV, A.N., MAKASHEV, YU.A., MIRONOV, V.YE.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 459-61
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--THERMODYNAMICS, HYDROGEN COMPOUND, CYANIDE, IRON COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1077 STEP NO--UR/0078/70/015/002/0459/0461
CIRC ACCESSION NO--AP0123070
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123070

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROTONIZATION OF (FE(CN) SUB6)

PRIME4 NEGATIVE IN AN AQ. SOLN, HAVING A CONST. IONIC STRENGTH OF 3

(LICLO SUB4) WAS STUDIED POTENTIOMETRICALLY AND THERMOCHEM. DELTA H,

DELTA S, AND DELTA F VALUES FOR THE 1ST AND 2ND PROTONATION OF (FE(CN)

SUB6) PRIME2 NEGATIVE WAS NOT OBSD. FACILITY: LENINGRAD. GOS.

PEDAGOG. INST. IM. GERTSENA, LENINGRAD, USSR.

UNCLASSIFIED ,

1/2 014 UNCLASSIFIED
TITLE--CUTEK SPHERE COMPLEXES OF COBALT -U-

PROCESSING DATE--20NOV70

AUTHOR--MIRONOV, V.YE.

COUNTRY OF INFO--USSR

SOURCE--USP. KHIM. 1970. 39(4), 702-26

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COBALT COMPLEX, AMMONIA, CHEMICAL BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1110

STEP NO--UR/0074/70/039/004/0702/0726

CIRC ACCESSION NO--AP0123537

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 232 REFS. OF COMPLEX
COMPS. OF $\text{CO}(\text{NH SUB3}) \text{SUB6}$ PRIME POSITIVE3, $\text{CO}(\text{EN}) \text{SUB3}$ PRIME
POSITIVE3, ACIDC, AND AQUODIAMMINECOBALT, DIACIDOTETRAMMINECOBALT, THE
INTERACTION OF THE ACIDC COMPLEXES OF $\text{CO}(\text{III})$, AND THE BONDING IN THE
COMPLEXES OF $\text{CO}(\text{III})$ ARE DISCUSSED. FACILITY: LENINGRAD.
TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 8 019 UNCLASSIFIED PROCESSING DATE--19SEP70
TITLE--THERMODYNAMICS OF OUTER SPHERE COMPLEXES. IV. COEFFICIENTS OF THE
ACTIVITY OF THE RACEMATE AND D, AND L, TRIETHYLENEDIAMINECOBALT(III)
AUTHOR--(04)--SMIRNOV, A.P., SIDOROV, P.S., RAGULIN, G.K., MIRONOV, V.YE.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 420-1

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COBALT COMPLEX, THERMODYNAMICS, ISOMER, PERCHLORATE, NITRATE,
SULFATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/0330

STEP NO--UR/0076/70/044/002/0420/0421

CIRC ACCESSION NO--AP0103985

UNCLASSIFIED

2/2 : 019

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103985

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COEFFS. OF ACTIVITY OF THE RACEMATE, AND THE D AND L ISOMERS OF TRIETHYLENEDIAMINE COBALT(III) PERCHLORATE, NITRATE, AND SULFATE IN AQ. SOLNS. ARE DETD.; THEY ARE EQUAL IN MAGNITUDE WITHIN THE LIMITS OF 1PERCENT. THIS MEANS THEIR ABILITY FOR OUTER SPHERE ASSOCN. IS EQUAL. C. J. STEINBERG.

UNCLASSIFIED

1/2 - 015 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THERMODYNAMICS OF OUTER SPHERE COMPLEXES. III. EFFECT OF SOLUTION
IONIC STRENGTH ON THE STABILITY OF HEXAAMINE COBALT(III) MONOHALIDES
AUTHOR--(03)--MIRONOV, V.YE., LYUBOMIROVA, K.N., RAGULIN, G.K.

COUNTRY OF INFO--USSR M

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 416-419

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, COBALT COMPLEX, IONIC BONDING, STABILITY
CONSTANT, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/0328

STEP NO--UR/0076/70/044/002/0416/0419

CIRC ACCESSION NO--AP0103983

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF (CO(NH SUB3) SUB6)
(CLO SUB4) SUB3 IN 0.2M SOLNS. OF LI(CLO SUB4, X), WHERE X IS CL, BR,
AND I AT 15 TO 45DEGREES IS STUDIED. THE STABILITY CONSTS. OF THE OUTER
SPHERE COMPLEXES ((CO(NH SUB3) SUB6)X) PRIME2 PLUS ARE CALCD. THE
NECESSITY FOR CALCG. THE STABILITY CONSTS. OF THE OUTER SPHERE COMPLEXES
IN SOLNS. WITH ZERO IONIC STRENGTH IS SHOWN.

UNCLASSIFIED

UDC 615.285.7.099.036.11

USSR

SINKIN, A. Z., and MIRONOV, YE. P., Central Rayon Hospital, Serpukhov

"Acute Poisoning With Chlorophos"

Moscow, Klinicheskaya Meditsina, Vol 49, No. 4, Apr 71, pp 133-134

Abstract: Patients 25-52 yrs old who had been poisoned with chlorophos during crop spraying as a result of inadequate safety precautions were studied. The outcome was favorable in every instance. After the initial period of acute intoxication accompanied by violent symptoms (headaches, asthenia, digestive disturbances, disturbances of cardiac activity and coma in two instances), a short period of relative clinical well-being followed. Disturbances of the nervous system became evident 7-10 days later. Treatment of the patients with atropine was effective. In view of the increased resistance to atropine in poisoning with organophosphorus compounds, S. N. Golikov and V. I. Rosengart recommend administration of this drug to adults in an initial dose of 2 mg in light intoxication and of 4-6 mg in medium and acute intoxications, followed by 2 mg doses every hour until the symptoms of excitation of cholinergic systems disappear. Development of the dry of mucosa on administration of atropine in chlorophos intoxication should not be regarded as a contraindication to further treatment with this drug; atropine was administered until steady

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USSR

SIMKIN, A. Z., and MIRONOV, YE. E., Klinicheskaya Meditsina, Vol. 49, No. 4, .
Apr 71, pp 133-134

widening of the pupils developed in periods free of spasms and the symptoms
of intoxication decreased in severity.

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1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--X RAY DIFFRACTION STUDY OF SOME TRANS DIHALOTETRA AMMINOPLATINUM
SALTS -U-
AUTHOR-(03)-MIRONOV, YU.I., BAKAKIN, V.V., MALCHIKOV, G.D.
COUNTRY OF INFO--USSR
SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 161-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--X RAY DIFFRACTION STUDY, PLATINUM COMPLEX, HALOGENATED ORGANIC
COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/0446 STEP NO--UR/0192/70/011/001/0161/0164
CIRC ACCESSION NO--AP0104059
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104059

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPODS.: (PT(NH SUB3) SUB4 CL SUB2) CL SUB2 (I), (PT(NH SUB3) SUB4) BR SUB2) BR SUB2 (II), (PT(NH SUB3) SUB4 I SUB2) I SUB2 (III), (PT(NH SUB3) SUB4 CL SUB2) (NO SUB3) SUB2 (IV), (PT(NH SUB3) SUB4 BR SUB2) (NO SUB3) SUB2 (V), AND (PT(NH SUB3) SUB4 I SUB2) (NO SUB3) SUB2 (VI) WERE EXAMD. BY THE POWDER METHOD BY USING DIFFRACTOMETER AND CU KALPHA RADIATION. THE COMPLEXES I AND II AND IV AND V ARE ISOTYPIC, RESP. THE FOLLOWING DATA WERE DETD. (SPACE GROUP, LATTICE PARAMETERS, ZETA): I, IOTA4-MMM, A EQUALS 7.455, C EQUALS 7.997 ANGSTROMS, 2; II, IOTA4-MMM, A EQUALS 7.698, C EQUALS 8.288 ANGSTROMS, 2; IV, MINUS, A EQUALS 8.57, B EQUALS 7.05, C EQUALS 6.50 ANGSTROMS, ALPHA EQUALS 114DEGREES 16MINUTES, BETA EQUALS 110DEGREES 05MINUTES, GAMMA EQUALS 111DEGREES 48MINUTES, 1; V, MINUS, A EQUALS 8.62, B EQUALS 6.92, C EQUALS 6.69 ANGSTROMS, ALPHA EQUALS 114DEGREES 36MINUTES, BETA EQUALS 111DEGREES 22MINUTES, GAMMA EQUALS 109DEGREES 40MINUTES, 1. YADEUSZ J. BARTCZAK.

UNCLASSIFIED

UDC: 621.384.639

USSR

ABROSIMOV, N. K., ALKHAZOV, D. G., DMITRIYEV, S. P., YELISEYEV, V. A.,
KAMINKER, D. M., KULIKOV, A. V., MITRONOV, Yu. T., MIKHEYEV, G. F.,
RYABOV, G. A., CHERNOV, N. N., SHALMANOV, V. I., KOMAR, Ye. G., MALY-
SHEV, I. F., MONOSZON, I. A., PEREGUD, V. I., ROZHDESTVENSKIY, B. V.,
ROYFE, I. M., SEREDENKO, Ye. V., Physicotechnical Institute imeni A. F.
Ioffe, Academy of Sciences of the USSR, Leningrad, Scientific Research
Institute of Electrophysical Equipment imeni D. V. Yefremov, Leningrad

"The Leningrad Synchrocyclotron for a Proton Energy of 1 GeV"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 41, No 9, Sep 71, pp 1769-1775

Abstract: The paper describes the synchrocyclotron at the Physicotechnical
Institute imeni A. F. Ioffe of the Academy of Sciences of the USSR for a
proton energy of 1 GeV. Proton beam parameters as well as the characteristics
of the main systems of the accelerator are presented. The beam channels are
described, and the layout of the accelerator building is given. The installa-
tion has been in successful operation since 1970. Three tables, two figures,
bibliography of twelve titles.

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1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--3,4,BENZOPYRENE LEVEL IN SUNFLOWER AND COTTONSEED OILS -U-
AUTHOR--(05)-GRIGORENKO, L.T., DIKUN, P.P., KALININA, I.A., MIRONOVA, A.A.
RZHEKHIN, V.P.
COUNTRY OF INFO--USSR
SOURCE--PRIKL. BIOKHIM. MIKROBIOL. 1970, 6(2), 142-50
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BENZENE DERIVATIVE, AROMATIC POLYCYCLIC HYDROCARBON,
CARCINOGEN, VEGETABLE OIL, SMOKE, FOOD TECHNOLOGY, FOOD ANALYSIS, THIN
LAYER CHROMATOGRAPHY, FLUORESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0109

STEP NO--UR/0411/70/006/002/0142/0150

CIRC ACCESSION NO--AP0135606

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135606

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYCYCLIC HYDROCARBONS WERE DETD. BY MODIFICATION OF A METHOD USED IN THE ANAL. OF SMOKED AND OTHER KINDS OF FOODS, CONSISTING OF SAPON. OF 50 G OIL WITH 25 G KOH AND 100 ML 96PERCENT ETOH 1-2 HR OVER BOILING, SEPN. OF THE NONSAPOND. FRACTION BY THIN LAYER CHROMATOG. ON AL SUB2 O SUB3 IN AN ASCENDING CURRENT OF ET SUB2 O, FOLLOWED BY QUANT. AND QUAL. FLUORESCENCE ANAL. THE 3,4-BENZOPYRENE CONTENT IN SUNFLOWER OIL OF VARIOUS ORIGINS VARIED WIDELY, BUT WAS MOSTLY 1-5 MU G-KG OIL. IT WAS ALSO FOUND IN COTTONSEED OILS. FACILITY: ALL UNION RES. INST. FATS, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EFFECT OF A PRIMARY AMINE IN THE REACTION OF
DICYCLOHEXYLCARBODIIMIDE WITH CARBOXYLIC ACIDS -U-
AUTHOR--(03)-MIRONOVA, D.F., OVORKO, G.F., SKURATOVSKAYA, T.N.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(2), 190-1
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PRIMARY AMINE, CYCLIC GROUP, IMIDE, CARBOXYLIC ACID, UREA
DERIVATIVE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2137 STEP NO--UR/0073/70/036/002/0190/0191
CIRC ACCESSION NO--AP0125720
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125720

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. FROM THE REACTION OF DICYCLOHEXYLCARBODIIMIDE WITH HOAC IN THF CONTG. PHNH SUB2 OF P-MEC SUB6 H SUB4 NH SUB2, IT IS POSSIBLE TO ISOLATE C SUB6 H SUB11 NHCON ACC SUB6 H SUB11 (I), NOT ISOLATED FROM THE REACTION IN CCL SUB4; NOR IS THE ANALOGOUS ACYLUREA ISOLATED WHEN CLCH SUB2 SO SUB2 H IS USED. THE RATE OF AMIDE FORMATION FROM CLCH SUB2 CO SUB2 H DOES NOT DEPEND ON CONCN. OR THE NATURE OF THE AMINE, BUT INCREASES FOR REACTION WITH HOAC ON ADDN. OF A PRIMARY AMINE. THIS IS ATTRIBUTED TO A CYCLIC TRANSITION STATE IN WHICH THE AMINE FURNISHES A PROTON FOR FORMATION OF I WHICH FORMS THE AMIDE IN A LATER STAGE OF THE REACTION. FACILITY: INST. ORG. KHIM., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 632.95

OVCHINNIKOV, P. N., BAT', I. I., MIRONOVA, G. A., and GINZBURG, B. R.

"Study of the Kinetics of the Liquid Phase Reduction of 3-Chloro- and 3,4-Dichloronitrobenzenes Over Platinized Carbon"

Alma-Ata, Katalitich. reaktsii v zhidkoy faze (Catalytic Reactions in the Liquid Phase) Nauka, 1972, pp 399-403 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7N687 by T. A. Belyayeva)

Translation: The preparative technology for chloro- and dichloroanilides used as poly products during the synthesis of herbicides is based on the catalytic reduction of the corresponding nitro compounds with H_2 under a pressure of 200-300 atm, in the presence of 0.5 to 1% platinized carbon. It was shown that the rate of reduction of $3-ClC_6H_4NO_2$ and $3,4-Cl_2C_6H_3NO_2$ in a 75% ethanol on 0.5, 1, and 2% platinized carbon was proportional to the concentration of the active complex on the catalyst surface. The reaction rate is limited by the activation of H_2 .

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USSR

MIRONOVA, I. I.

"The Effect of Elevated Oxygen Concentrations on Leukocytes in the Peripheral Blood of White Rats"

Moscow, Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul-teta (Aspects of Biomedical Research. Materials of a Conference of Young Scientific Workers of the Biomedical Faculty), Ministerstvo Zdravookhraneniya SSSR, 1970, 93 pp, pp 44-46

Abstract: White rats were used in experiments conducted to determine the effect of prolonged -- 20 day -- inhalation of a gaseous mixture containing 50, 70, and 100% oxygen on the organism. Experimental animals were kept in pressure chambers under constant microclimatic and standard nutrition conditions. The blood content of leukocytes and the leukocyte formula were determined 1, 3, 5, 10, 15, and 20 days after the beginning of experiments. It was found that inhalation of a gaseous mixture containing 50% oxygen caused no shifts in the leukocyte content of one ml of blood. A gaseous mixture containing 70% oxygen led to 1/2

USSR

MIRONOVA, I. I., Voprosy Mediko-Biologicheskikh Issledovaniy.
Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-
Biologicheskogo Fakul-teta, 1970, 93 pp, pp 44-46

the development of moderate leukocytosis, beginning with the 10th day of exposure to hyperoxia. A 100% increase of oxygen in the gaseous mixture led to the earlier development (on the second day) of leukocytosis and a disrupted leukocyte formula: by the 5th day of exposure the number of eosinophils tripled. The results did not agree with results obtained in analogous experiments on mice, and the advisability of conducting comparative studies on the reaction of leukocyte systems to hyperoxia is stressed.

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USSR

UDC 576.851.49.095.18:(628.31:634.0.863

BORODINA, G. A., MIRONOVA, I. A., Irkutsk Medical Institute and Irkutsk Scientific Research Institute of Epidemiology and Microbiology

"Effect of the Waste Water of the Hydrolysis Plant on the Survival of Typhoid and Dysentery Bacteria"

Moscow, Gigiyena i Sanitariya, No 8, 1972, pp 101-102

Abstract: A study was made of the effect of hydrolysis waste water on the pathogens of typhoid and dysentery. The survival of typhoid and dysentery bacteria in the waste water was studied experimentally in order more precisely to define the bacterial properties of the common hydrolysis waste with respect to these microorganisms. The waste water of the Tulun Hydrolysis Plant was studied because it had not been decontaminated after passage through the cleaning structures. Fifteen series of experiments demonstrated that the survival of typhoid bacteria after 2, 4 and 24 hours is quite high for all dilutions of the water. Thus, the number of microbial colonies in the test tube with undiluted waste water by comparison with the control at 22°C decreased by 307 on exposure for 2 hours, 387 on exposure for 4 hours and 555 on exposure for 24 hours. Consequently, the bacterial properties of the Tulun Hydrolysis Plant waste are unacceptable with respect to such pathogenic microorganisms. The

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USSR

BORODINA, G. A. and MIRONOVA, L. A., Gigiyena i Sanitariya, No 8, 1972, pp 101-102

residual number of colonies of dysentery bacteria in all dilutions after 2, 4 and 24 hours is also quite high. At 22°C in a test tube with undiluted waste water, the number of these bacteria decreased by 193 for 2 hours of exposure, 200 for 4 hours of exposure and 260 for 24 hours of exposure.

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UDC 621.394.144

USSR

AKIMOV, A. YE., BORMOTOV, N. N., KOLTYSHEVA, G. V., and MIRONOVA, L. A.

"Optimization of the Synchronization Process in Discrete Message Transmission Systems"

Moscow, Elektrosvyaz', No 11, 1970, pp 61-66

Abstract: The authors conduct a heuristic analysis of the synthesis of an ideal synchronization process. Possible approaches are considered for realizing ideal synchronization for Gaussian channels and for channels with fading. Synchronization accuracy characteristics are calculated along with false synchronization probability and the optimal thresholds for the synchrosignal receiver. The authors thank K. A. Meshkovskiy for his interest in the article. Original article: five figures, one table, 13 formulas, and 10 bibliographic entries.

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CHLORINE 35 NUCLEAR QUADRUPOLE RESONANCE NQR OF 1,ALKANECARBOXYLIC
ACID CHLORIDES -U-
AUTHOR-(04)-VORONKOV, M.G., FESHIN, V.P., GONCHAROVA, I.N., MIRONOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS 1970, (2), 35-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--NUCLEAR RESONANCE, CARBOXYLIC ACID, ALKANE, CHLORINATED
ORGANIC COMPOUND, SPECTRUM, ELECTRON TRANSFER, CONJUGATE BOND SYSTEM,
CHLORINE ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0649

STEP NO--UR/0197/70/000/002/0035/0037

CIRC ACCESSION NO--AP0119561

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119561

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH THE PURPOSE TO LEARN THE NATURE OF THE ELECTRON TRANSFER THROUGH SATD. NYDROCARBON CHAIN THE PRIME35 CL NQR SPECTRA WERE STUDIED IN A SERIES OF COMPOS. OF THE TYPE $X(CH_2)_nY$, WHERE X EQUALS ME OR COCL, N EQUALS 0-10, 12, 13, AND X EQUALS Y EQUALS COCL, N EQUALS 0-8. THE SPECTRA WERE MEASURED AT 77DEGREESK ON A SPIN ECHO TYPE APP. THE RESONANCE FREQUENCY ν FOR BOTH SERIES STUDIED ARE SIMILAR (SIMILAR TO 29 MHZ) AND LOWER THAN IN THE CORRESPONDING CL ANALOGS (X EQUALS ME, Y EQUALS CL, OR X EQUALS Y EQUALS CL). THIS IS DUE TO THE GEMINAL CONJUGATION BETWEEN THE CL ATOM AND THE C:O GROUP IN THE ACYL CHLORIDES. THE RELATION ν VS. N HAS A DIFFERENT CHARACTER FOR EITHER SERIES. IN DIACYL CHLORIDES THE ν VALUE DECREASES ON PASSING FROM N EQUALS 0 TO N EQUALS 3 OWING TO A DECREASED MINUS 1 EFFECT. AT N EQUALS 3-8 IT OSCILLATES AROUND AN AV. VALUE LARGER FOR EVEN AND SMALLER FOR ODD N VALUES. THE AMPLITUDE OF THESE OSCILLATIONS AND THE AV. ν VALUE INCREASES WITH LENGTH OF THE CHAIN. IN MONOACYL CHLORIDES THE ν VALUE OSCILLATES BEGINNING FROM N EQUALS 0. FOR N EQUALS 1 ν IS INCREASED CONTRARY TO THE EXPECTATIONS ON THE BASIS OF THEIR SIGMA VALUES. THIS IS DUE TO THE SIGMA, SIGMA INTERACTION EFFECT OVERWEIGHING THE PLUS 1 EFFECT OF THE ALKYL GROUP. WHEN PASSING FROM N EQUALS 1 TO 2 THE ν VALUE BECOMES LOWER AS THE PLUS 1 EFFECT BECOMES INOPERATIVE THERE. ON FURTHER LENGTHENING OF THE CHAIN (N LARGER THAN 2) THE PERIODIC CHANGES OF ν RESULT ONLY FROM THE OSCILLATION EFFECT WHICH IS REGULAR THERE.

FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

USSR

UDC 534.121.2:661.7

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APEL'TSIN, I. E., KARELIN, F. N., LISHNEVSKIY, V. A., DUBYAGA, V. P.,
PEREPECHKIN, L. P., MIRONOVA, L. V., and ZAYCHUKOVA, N. A.

"Acetylcellulose Membranes for Desalination of Water by Hyperfiltration"

Moscow, Vodosnabzheniye i Sanitarnaya Teknika, No 6, 1971, pp 18-19

Abstract: Three types of membranes are reported suitable for water desalination. One prepared from an acetone solution of acetylcellulose "Etrol B" with a small quantity of water and magnesium perchlorate was deposited on glass at -12°C , kept in air for 3.5 min, the membrane was separated from glass and kept in water at 80° for 70 min. Such a membrane gave a 84-88% desalination with $500 \text{ l/m}^2 \cdot \text{day}$ of water passage at 50 atm pressure. Using the same "Etrol B" acetyl cellulose in acetone and formamide, the membrane was formed on glass at 18°C , then treated at 80°C for 30 min. This membrane gave a 83-85% desalination with $800 \text{ l/m}^2 \cdot \text{day}$ passage capacity at 50 atm pressure. Acetyl cellulose membranes prepared from acetic acid solution containing triethanolamine acetate and sulfate admixtures gave a 90-91% desalination with $300 \text{ l/m}^2 \cdot \text{day}$ passage of water at 65 atm pressure.

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USSR

UDC: 533.6.07

GORLIN, S. M., MIRONOVA, N. A., KHUDYAKOV, G. Ye.

"Wind Tunnels"

Nauch. tr. In-t mekh. Mosk. un-ta (Scientific Works. Institute of Mechanics of Moscow University), 1971, No 14, pp 4-27 (from RZh-Mekhanika, No 5, May 72, Abstract No 5B541)

Translation: The authors describe the construction and aerodynamic characteristics of wind tunnels of the Institute of Mechanics, Moscow State University: tunnel A-6 (a closed single-channel tube with open working section of elliptical cross section measuring 2.34×4 m, flowrate $V \leq 50 \text{ m} \cdot \text{s}^{-1}$, nonuniformity of velocity field of less than $\pm 0.5\%$, downwash in the range of $\pm 15'$ ($\pm 4.36 \cdot 10^{-3}$ rad), gradient of static pressure along the axis of the tube $d\bar{p}/dx = 0.002 \text{ m}^{-1}$, turbulence intensity $\epsilon_0 \leq 0.2\%$, drive power $N = 2000$ kW); tube A-10a (a direct-action tunnel capable of operation with a closed octangular working section 800 mm high, or with an open section and an Eifel chamber, $V \leq 55-10 \text{ m} \cdot \text{s}^{-1}$, $\epsilon_0 \approx 0.4\%$, $N = 240$ kW); tunnel A-1 (closed type with a closed working section 250 mm in diameter, $V \leq 60 \text{ m} \cdot \text{s}^{-1}$, $\epsilon = 0.4\%$, $N = 21$ kW); tunnel A-4 (direct-action with a closed 300×300 mm working section, $V = 25$

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USSR

GORLIN, S. M. et al., Nauch. tr. In-t mekh. Mosk. un-ta, 1971, No 14, pp 4-27

$\text{m}\cdot\text{s}^{-1}$, $N=6$ kW); tunnel A-11 (a near-sonic tube with ejector drive and supply from a gas tank, $M=0.4-2.5$, $\epsilon_0 \approx 0.9\%$). Information is also given on the tunnel instrumentation. B. I. Bakum.

MIRONOVA, N. A.

Sci JPRS 54637
27 JULY 1973

(3)

UDC 669.14.620.192.63/.49
MECHANISM OF REMOVING NITRIDE INCLUSIONS FROM HEAT-RESISTANT ALLOYS DURING
MELTING

Article by A. V. Leytas, N. A. Mironova, and N. Ye. Krasil'. (Moscow); Moscow,
Izvestiya Akademii Nauk SSSR Metal., Russian, No 3, 1973, submitted 29 June
1972, pp 39-42)

Processes of metal refining during vacuum-arc melting (VAM) lead to lowering of the content of nonmetallic inclusions and gases in the ingot. Existing concepts on the mechanism of removing inclusions from metal during vacuum-arc remelting (VAR) are basically reduced to processes of floating and dissociation of the metal in the region of arc burning and dissociation of the metal in the region of arc burning (including nitrates) in the molten bath /6-10/. At the same time, observations into the process of VAR show that an accumulation of slag occurs on the bath surface, rendering a large effect on stability of the electrical mode of remelting and hence quality. Stability, resistance under ideal conditions depends on many factors.

Purpose of this work was to study the mechanism of removing nitrates from heat-resistant alloys during VAR using continuously cast consumable electrodes with a diameter of 125 mm having a substantial difference in the composition, quantity, dimensions and distribution of nonmetallic inclusions.

Heat-resistant nickel alloys KhN56VKhYu (Alloy I) and KhN56VKhYuKh (Alloy II) were selected for this research. These alloys were alloyed with a significant amount of highly active oxide- and nitride-forming elements. Alloy I contained up to 6% Al and Alloy II--up to 4.5% Al and up to 2.5% Ti.

Difference in the contamination of the consumable electrodes was produced by means of pouring the metal into an argon

USSR

UDC: 669.187.25:621.365.2

LEYTES, A. V., MIRONOVA, N. A., KISIL', N. Ye.

"Influence of Contamination of Consumable Electrodes of Heat-Resistant Alloys with Nonmetallic Inclusions on Refining of Metal During Vacuum-Arc Remelting"

Moscow, Stal', No 2, 1973, pp 128-130

Abstract: Two typical industrial heat-resistant alloys (I: 6% Al and II: 4.5% Al and 2.5% Ti) are used in a study of the influence of the form and quantity of inclusions in the initial metal on the degree of their removal in VAR. The metal of the electrode remelted was cast by two methods -- in an atmosphere of argon and in an active atmosphere; in the second case, considerably more inclusions were formed, due to the appearance of groups (nitrides accompanied with oxide films) and larger accumulations (I, accumulations of Al nitrides; II, Al and Ti nitrides). VAR removes primarily accumulations of inclusions, while the content of fine individual inclusions is almost not changed. The inclusions which float upward form a slag layer on the liquid surface of the metal, contaminating the surface zone of the ingot; Al nitrides dissociate, causing ionization in the arc zone and disrupting the current flow mode. Ti nitrides do not dissociate.

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USSR

UDC: 536.421.4;541.123.7

BANDURKINA, G. V., MIRONOVA, N. A., and PCSPELOVA, R. V.

"Obtaining Monocrystalline Epitaxial $\text{Co}_x\text{Mg}_{1-x}\text{O}$ Solid Solution Films"

Riga, Izvestiya Akademii nauk Latvyskoy SSR -- Seriya fizicheskikh i tekhnicheskikh nauk, No 3, 1972, pp 32-33

Abstract: A description is given of a method for obtaining monocrystalline films of $\text{Co}_x\text{Mg}_{1-x}\text{O}$ by using chemical transport reactions in an HCl atmosphere in a small gap. Discs of 15 mm diameter and 1-1.5 mm high, made by ceramic techniques, were used as sources of $\text{Co}_x\text{Mg}_{1-x}\text{O}$. The original materials used were magnesium oxide of the analysis-pure type and cobalt nitrate of the "very pure" type. The magnesium oxide in powder form was impregnated with a solution of the cobalt nitrate in the proper concentration, was dried by evaporation and heated to 500-600° C for six hours to drive off the nitrogen oxide, and was then further heated at 1300° C until the formation of single-phase polycrystalline solid solutions of $\text{Co}_x\text{Mg}_{1-x}\text{O}$. The substrates were monocrystalline plates of MgO 0.5-1.0 mm thick. Members of the Institute of Physics, Academy of Sciences of the Latvian SSR, the authors express their gratitude to I. E. Tsirkunova and to Ya. M. Ksendzov for their assistance.

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1/2 028 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--FINE STRUCTURE AND PROPERTIES OF DEFORMED AND ANNEALED TUNGSTEN
SINGLE CRYSTALS -U-
AUTHOR-(05)-TIRASPOLSKIY, V.I., KOTLVAR, A.A., GRODSKIY, E.A., MIRONOVA,
O.YA., RATNER, L.A.
COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1) 175-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--TUNGSTEN, METAL SINGLE CRYSTAL, Z RAY DIFFRACTION, ZONE
MELTING, METAL DEFORMATION, WARM ROLLING, MICROHARDNESS, RESISTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0700

STEP NO--UR/0126/70/029/001/0175/0179

CIRC ACCESSION NO--AP0105676

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105676

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STRUCTURAL CHANGES DURING ROLLING AND SUBSEQUENT ANNEALING OF W SINGLE CRYSTALS WERE STUDIED BY X RAY DIFFRACTION IN COMBINATION WITH MICROHARDNESS MEASUREMENTS, AS WELL AS BY ELEC. RESISTIVITY MEASUREMENTS AT LIQ. N TEMP. INVESTIGATED WERE W SINGLE CRYSTALS PREPD. BY ELECTRON ARC ZONE MELTING AND CONTG. A HIGH CONCN. (0.05PERCENT) OF INTERSTITIAL IMPURITIES, ESP. C. PRIOR TO DEFORMATION, THE SAMPLES WERE ANNEALED AT 1500DEGREES FOR 5 HR TO REMOVE CASTING STRESSES. AFTER THIS THEY WERE ROLLED AT 200DEGREES (WARM ROLLING) BY 5, 8, 12, 16, 25, 27, OR 30PERCENT. THE PLANE AND THE DIRECTION OF ROLLING WERE CHOSEN ARBITRARILY, AND IN THE GIVEN CASE CORRESPONDED TO APPROX. (123) (110). SAMPLES DEFORMED BY 12-30PERCENT WERE THEN ANNEALED SUCCESSIVELY AT 900, 1200, 1500, 1800, AND 2400DEGREES FOR 1 HR. AT EACH STAGE OF THE TREATMENT, THE SUBSTRUCTURE OF W WAS INVESTIGATED BY X RAY DIFFRACTION (SCHULTZ METHOD), AND THE MICROHARDNESS AND ELEC. RESISTIVITY WERE MEASURED AT LIQ. N TEMP. CERTAIN PROPOSALS ARE MADE AS TO THE NATURE OF THE PROCESSES GOING ON IN W SINGLE CRYSTALS DURING COLD DEFORMATION TO 30PERCENT AND STEPWISE ANNEALING. WARM ROLLING TO 30PERCENT PRODUCES IN W SINGLE CRYSTALS A SUPERFRAGMENTED OR A FRAGMENTED SUBSTRUCTURE. STEPWISE ANNEALING OF SINGLE CRYSTALS WITH SUPERFRAGMENTED SUBSTRUCTURE PRODUCES IN THEM RECOVERY AND POLYGONIZATION, WHEREAS FOR FRAGMENTED SUBSTRUCTURE IT PRODUCES ALSO SPOT RECRYSTN., LEADING TO COMPLETE WEAKENING AND THE FORMATION OF A PERFECT STRUCTURE.

UNCLASSIFIED

USSR

UDC 669.29:620.183

TIRASPOL'SKIY, V. I., KOTLYAR, A. A., GRODSKIY, E. A., MIRONOVA, O. YA.,
RATNER, L. A., and SEPARO, N. B.

"Thin Structure and Properties of Deformed and Annealed Tungsten Single Crystals"
Sverdlovsk, Akademiya Nauk SSSR, Fizika Metallov i Metallovedeniye, Vol 29, No 1,
Jan 70, pp 175-179

Abstract: Structural changes occurring in tungsten single crystals during hot rolling and subsequent annealing were investigated, using the methods of X-ray diffraction microscopy and by measuring the microhardness and residual electrical resistance at the liquid nitrogen temperature (78°K). The experimental technique and procedure for producing tungsten single crystals are described. X-ray photographs are presented of single crystal structure before and after rolling, and also of samples strained at 30% and annealed at various temperatures (1200 to 2400°). They show that the dislocation density inside the subgrains increases with strain, and at $\epsilon = 25\%$ the subgrain boundaries are no longer discernible. This state is conditionally characterized as prefragmentary. At $\epsilon = 27\%$ a qualitatively new fragmentary state occurs. The substructure and properties of deformed (up to 30%) tungsten single crystals after annealing at various temperatures are studied.

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USSR

TIRASPOL'SKIY, V. I., et al, Akademiya Nauk SSSR, Fizika Metallov i Metallovedeniye, Vol 29, No 1, Jan 70, pp 175-179

The variation of the residual electrical resistance and microhardness of samples deformed at 25 and 30% and annealed at 900° are presented in graphs and analyzed. The results show that hot rolling with 30% strain produces a prefragmentary or fragmentary substructure, depending on strain. The step-by-step annealing of single crystals with a prefragmentary substructure induces only relaxation and polygonalization. In the case of a fragmentary substructure it also induces recrystallization, which leads to a total softening and a perfect structure. Orig. art. has: 5 figures.

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USSR

UDC 632.95

ZINOV'YEV, YU. M., and ~~MIRONOVA~~, R. I.,

"Method of Producing Ethylthiol Pyrazole or Pyrazolene Derivatives"

USSR Authors' Certificate No 248667, filed 24/05/66, published 4/01/70
(from Referativnyy Zhurnal Khimii, No 16 (II), 25 Aug 70, Abstract
No 16 N694 P by A. F. Prokof'yeva)

Translation: Heterocyclic aminothiols containing 2 N atoms in the ring
are produced by the interaction of derivatives of pyrazole or pyrazolene
with ethylenesulfide in benzene in an atmosphere of N_2 . A mixture of 12 g
 $HSCl = CH_2$, 41.6 g 3,5-dimethylpyrazole (II) in 50 ml benzene is boiled
10 hr in a current of N_2 ; the solvent is removed, the excess II is filtered
off and triple distillation of the residue produces 15 g of β -(3,5-dimethyl-
pyrazolyl)-ethylmercaptan, yield 48.3%, b.p. $75-7^\circ/2$ mm, n_D^{20} 1.5230, d_4^{20}
1.0564. A similar method is used to produce β -(3,5,5-trimethylpyrazolyl)-
ethylmercaptan, yield 38%, b.p. $73-6^\circ/2.5$ mm, n_D^{20} 1.5026, d_4^{20} 0.09972.

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Acc. Nr.: AP0030921

Ref. Code: UR 0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 1, pp 124-126

GENERALIZED PERIVASCULAR NEURALGIAS OF BRUCELLOSIS ETIOLOGY

T. I. Mironova (Makhachkala)

A study is presented of 102 patients with involvement of the peripheric nervous-system of brucellosis etiology. Seventy patients showed the syndrome of perivascular-neuralgia. The patients complained of peculiar pain, vegetative dysfunction which developed at the background of involvement of the peripheric region of the vegetative nervous-system. Treatment as a rule results in improvement but there is a tendency to recurrences.

It is emphasized that practical physicians should get more acquainted with this-form of pathology, because erroneous diagnoses are here not infrequent.

REEL/FRAHE
19690940

USSR

UDC: 616.981.232-036.22-616.831.9-022-022.7-036.22

FAVOROVA, L.A., MIRONOVA, T.K., MARGOLINA, M.S., POKROVSKIY, V.I., VENCEROV, YU.YA., KOSTYUKOVA, N.N., AND IGNATOV, YU.I., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, and Central Institute of Epidemiology

"Epidemiological Analysis of Outbreaks of Epidemic Cerebrospinal Meningitis Report!"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, pp 95-100

Abstract: The incidence of cerebrospinal meningitis in the Soviet Union dropped over 25 years ago to a very low level and stabilized. Only isolated cases were reported until 1967-1968, when minor epidemics of the disease occurred in a number of inhabited places. These outbreaks had a number of features in common: frequency of mostly asymptomatic nasopharyngitis not detected by physicians, prevalence of the carrier state, infection mostly among children 12-20, especially those living under extremely crowded conditions in boarding schools, and occurrence in the fall and spring. The various control measures adopted halted the spread of the disease but not the carrier state, which persisted until the children returned to their homes for holiday vacations.

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Acc. Nr: **AP0044201**

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp **95-100**

EPIDEMIOLOGICAL ANALYSIS OF OUTBREAKS
OF MENINGOCOCCUS INFECTION

REPORT I

Favorova, L. A.; Mironova, T. K.; Margolina, M. S.;
Pokrovskiy, V. I.; Vengerov, Yu. Ya.; Kostyukova, N. N.;
Ignatov, Yu. I.

The authors present materials concerning epidemiological and microbiological characteristics of outbreaks of meningococcus infection which occurred in 1967—1968 against the background of prolonged epidemiological welfare. The outbreaks, characterized by individual cases of the disease, widespread nasopharyngitis and carrier state, had a number of characteristic epidemiological signs (autumnospring seasonal prevalence, the patients' age range — from 12 to 20 years, and marked «nidality» of meningitis cases).

Strains of meningococci isolated from carriers differed in serological respect: along with types A, B and C there occurred many nonagglutinating strains, and also polyagglutinable and spontaneously agglutinating cultures.

REEL/FRAME
19770687

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Polymers and Polymerization

USSR

UDC 615.456.014.83:678.7].07

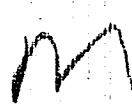
SENOV, P. L., and MIRONOVA, V. A., 1st Moscow Medical Institute imeni I. M. Sechenov, Central Scientific Research Apothecary Institute

"Testing Methods for Polymeric Materials Used as Stoppers in Containers for Injection Solutions"

Moscow, Farmatsiya, Vol 20, No 1, Jan-Feb 71, pp 72-77

Abstract: On the basis of domestic and foreign data a procedure was proposed for testing polymeric stoppers used with injection solutions. Routine testing should include determination of materials bleached out under autoclave conditions, by checking the pH, turbidity, nonvolatile residue, UV absorption, ionic impurities, and thiuram content of water kept in contact with the plastic material. Pyrogenicity, toxicity, and cytotoxicity should be carried out. The plastic materials should be tested for permeability by water vapor and by microorganisms; elasticity should be determined as well as the ability to form tight seals.

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1/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SOLUTIONS OF EQUATIONS FOR THE THERMAL BOUNDARY LAYER AT A ROTATING
AXISYMMETRIC SURFACE -U-
AUTHOR--(02)-DORFMAN, L.A., MIRONOVA, V.A. 
COUNTRY OF INFO--USSR
SOURCE--INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, VOL. 13, JAN.
1970, P. 81-92
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--THERMAL BOUNDARY LAYER, BOUNDARY LAYER EQUATION, TEMPERATURE
DISTRIBUTION, VELOCITY DISTRIBUTION, DIFFERENTIAL EQUATION SOLUTION,
COMPUTER CALCULATION, AXISYMMETRIC BODY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0941 STEP NO--UK/0000/70/013/000/0081/0092
CIRC ACCESSION NO--AP0107470
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107470

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM IS SOLVED BY DORODNITSYN'S TRANSFORMATION FOR THE CASE OF COMPRESSIBLE GAS, THE VISCOSITY OF WHICH IS A LINEAR FUNCTION OF TEMPERATURE. THE PROFILES OF TEMPERATURE AND COMPONENTS OF THE VELOCITY VECTOR ARE PRESENTED IN A SERIES FROM EXPANDED OVER PARAMETERS DESCRIBING THE SHAPE OF THE MERIDIONAL SURFACE. A RECURRENT SYSTEM OF ORDINARY DIFFERENTIAL EQUATIONS IS OBTAINED FOR THE COEFFICIENTS AT THE ABOVE PARAMETERS WHICH ARE THE FUNCTIONS OF THE DIMENSIONLESS DISTANCE FROM THE SURFACE. THE RESULTS ARE SHOWN OF THE COMPUTER SOLUTION OF THE BOUNDARY VALUE PROBLEM FOR THE GIVEN DIFFERENTIAL EQUATIONS. THE PRESENT SOLUTION FOR A SPHERICAL SURFACE IS COMPARED WITH OTHER SOLUTIONS. FACILITY: TSENTRAL'NYI NAUCHNO ISSLEDOVATEL'SKII PROEKTNO KONSTRUKTORSKII KOTLOTURBINNYI INSTITUT, LENINGRAD, USSR.

UNCLASSIFIED

Analysis and Testing

USSR

UDC 669.018.44

CHERNYAK, G. S., VORONIN, N. L., D'YAKONOVA, V. A., MIRONOVA, V. P., and ZUBRILOVA, V. A.

"Estimating the Quality of Heat-Resisting Vacuum-Melted Alloys by the Method of Mathematical Statistics"

Sb. tr. TsNII chern. metallurgii (Collection of Works of Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp. 77, pp 55-63 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 31749 by authors)

Translation: The article describes results of a "Minsk-22" computer-aided statistical analysis of control determinations of the principal chemical elements, the testing of mechanical properties, and estimates of grain size in the macrostructure of EI437BU and EP109 alloys after vacuum arc refining. It is shown that the distribution of most of the criteria selected for estimating the quality of EI437BU alloy is governed by the normal distribution law and that the strength and ductility characteristics of the alloy are most affected by the macrograin size of upset billets, which in turn depends on the C and Al content of the alloy. It was found that an inverse relation exists in alloy EP109 between the grain size observed in the macrostructure of bars and strength characteristics. Two illustrations. Four tables.

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USSR

UDC 621.73.01

DZUGUTOV, M. YA., STEPANOV, V. P., and MIRONOVA, V. P.

"Effect of Temperature and Degree of Deformation on Grain Size and Grain Variety in KhN77TYuR Alloy"

Moscow, Kuznechno-Shtampovoye Proizvodstvo, No 2, Feb 71, pp 7-8

Abstract: This article contains a study of grain size in the KhN77TYuR alloy as a function of two basic technological factors -- temperature and degree of deformation. The experimental procedure is described and the results are presented in the form of graphs and photographs. These results provide a basis for considering that in practice, for any strain it is possible to obtain KhN77TYuR alloy with a relatively uniform structure and optimal grain size by selecting the deformation temperature. For degrees of deformation of about 10%, the most favorable results are obtained when heating in the 1,060-1,170°C range, for degrees of deformation of about 25%, in the 950-1,170°C range, and for degrees of deformation of about 90%, heating in the 950-1,100°C range. It is pointed out that for approximately 25% deformation, uniform fine-grained structure is obtained in a broad temperature range of about ~200°C. These are the most favorable degrees of deformation for the

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USSR

DZUGUTOV, M. YA., et al., Kuznechno-Shtampovochnoye Proizvodstvo, No 2,
Feb 71, pp 7-8

given alloy from the point of view of obtaining an optimal finite structure.
The experiments also confirmed the presence of two critical deformation
zones -- at low and high degrees of deformation -- for the KhN77TYuR alloy.

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- END -

7676

CSO: 1842-W

- 67 -

USSR

UDC 669.245.519.28

CHERNYAK, G. S., VORONIN, N. I., D'YAKONOVA, V. A., MIRONOVA, V. P., and ZUBRILOVA, V. A.

"Mathematical Statistics Estimation of Quality of Vacuum-Produced Heat-Resistant Alloys"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 55-63

Translation: Results are presented from computerized statistical processing of the results of test determinations of the main chemical elements, tests of mechanical properties, and estimates of grain size in the macrostructure of the alloys EI437BU and EP109 following vacuum arc remelting.

It is demonstrated that the distribution of most criteria selected for evaluation of the quality of EI437BU alloy follows the normal distribution and that the greatest influence on the characteristics of strength and plasticity of the alloy is that of the grain size of billets, which in turn depends on the content of carbon and aluminum in the alloy.

It is established that EP109 alloy shows an inverse dependence between grain size observed in the macrostructure of bars and strength characteristics. 2 figures; 4 tables.

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1/3 027 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ZIRCONIUM AND HAFNIUM PHOSPHITES -U-
AUTHOR--(02)-AVDUYEVSKAYA, K.A., MIRONOVA, V.S. *m*
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 391-2
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--ZIRCONIUM, HAFNIUM, LUMINESCENCE SPECTRUM, PHOSPHATE,
ABSORPTION SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0088 STEP NO--UR/0363/70/006/002/0391/0392
CIRC ACCESSION NO--AP0125919
UNCLASSIFIED

2/3 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125919

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ZR AND HF PHOSPHITES WERE PREPD. BY THE INTERACTION OF MOCL SUB2 (M EQUALS ZR, HF) WITH AN ORTHOPHOSPHORIC ACID SULN. IN ORDER TO DET. THE COMPN. OF THE COMPOS., THE MOCL SUB2 H SUB3 PO SUB3 H SUB2 O SYSTEM WAS INVESTIGATED AT A CONST. CONC. OF MOCL SUB2 OF 0.1M AND AT A VARIABLE CONC. OF H SUB3 PO SUB3. THE RATIO H SUB3 PO SUB3:M EQUALS N IN THE STARTING MIXTS. VARIED FROM 0.5 TO 10; EXPTS. WITH A HIGHER CONC. OF THE ACID WERE ALSO PERFORMED. THE PPTN. OF A COLORLESS FLOCCULENT RESIDUE TOOK PLACE IN ALL THE PREPD. MIXTS. THIS RESIDUE WAS ANALYZED FOR THE ZR AND HF CONTENT, RESP. THE PHOSPHITE ION WAS DETD. BY THE IODOMETRIC METHOD. THE WATER CONTENT IN THE OXYPHOSPHATES WAS DETD. FROM THE DIFFERENCE; IN THE MEDIAN PHOSPHITES, IT WAS DETD. FROM THE SYM. AZA SUBSTITUTION AND METALATION AFFECTED THE PI ELECTRON DISTRIBUTION IN THE MOL., ALTERED THE OSCILLATOR ORIENTATION AND, CONSEQUENTLY, RESULTED IN SIGNIFICANT CHANGES IN THE SPECTRUM AS COMPARED WITH I OR SYM. SUBSTITUTED IV. MAX. POLARIZATION OF ZN,II AND ZN,III MOLS. WAS AS HIGH AS 40PERCENT WHEREAS THE POLARIZATION OF THE MORE SYM. MG IV MOLS., SIMILARLY TO THAT OF METALLOPORPHYRINS, DID NOT EXCEED 14PERCENT AND WAS CONST. ALONG THE SPECTRUM. ACCORDINGLY, A SYM. FLAT OSCILLATOR STRUCTURE OF MG IV WAS ASSUMED. AS A RESULT OF THE AZA SUBSTITUTION OF THE PORPHINE SKELETON AND METALATION, THE LONG WAVE OSCILLATOR IN THE MOL. OF THE METAL PORPHYRINS IS ORIENTED ALONG THE AXIS CONNECTING THE PERIPHERAL H ATOMS ACROSS THE CENTRAL ATOM OF THE METAL.

UNCLASSIFIED

3/3 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125919

ABSTRACT/EXTRACT--THE POLARIZATION OF THE LUMINESCENCE SPECTRUM PROVED
MORE SENSITIVE TO THE MOL. STRUCTURE ALTERATIONS THAN THE ABSORPTION
SPECTRUM. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA,
MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 547.241.07

KABACHNIK, M. I., MEDVED', T. Ya., LASTOVSKIY, R. P., KOLPAKOVA, I. D.,
URINOVICH, Ye. M., KRINITSKAYA, L. V., and MIRONOVA, Ye. I.

"A Method of Making Hydroxyethylidenediphosphonic Acid"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 5, Feb 71, Author's Certificate No 292984, Division C, filed 2 Jun 69,
published 15 Jan 71, p 101

Translation: This Author's Certificate introduces: 1. A method of making hydroxyethylidenediphosphonic acid by interacting phosphorus trichloride with acetic acid in the presence of heat. As a distinguishing feature of the patent, the process is simplified by adding acetic anhydride to the initial mixture. 2. A modification of this method distinguished by the fact that the phosphorus trichloride, acetic acid and acetic anhydride are present in the mixture in a molar ratio of 1:2:1. 3. A modification of this method in which the process is carried out at a temperature of 35-120°C.

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- 17 -

USSR

UDC 547.241

MIRJONGVA, Z. N., TSVETKOV, Ye. N., PETROVSKAYA, L. I., NEGREBETSKIY, V. V.,
NIKOLAYEV, A. V., and KABACHNIK, M. I., Institute of Inorganic Chemistry,
Siberian Division, Academy of Sciences USSR, and Institute of Heteroorganic
Compounds, Academy of Sciences USSR

"Synthesis Starting With Tetraoxymethylphosphine Chloride; Aminomethyl-
phosphines and Their Oxides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2152-2158

Abstract: Eleven aminomethylphosphines, general formula $R_nP(CH_2NR'_2)_{3-n}$, were synthesized from tri(acetoxymethyl)phosphine, whose synthesis the authors have previously reported, and secondary amines in aqueous methanol in the presence of potassium hydroxide. This synthetic pathway is said to have fewer difficulties than those described previously, and to proceed via a saponification mechanism. The yield, boiling point, refractive index, density, observed and calculated molar refraction, percentages of C, H, and P, and formula are reported. Using hydrogen peroxide in acetone the phosphines were oxidized to their corresponding oxides. Several previous synthetic pathways are listed and some of the constants are reported for ten of these. Proton magnetic resonance and double resonance
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USSR

MIRGNOVA, Z. N., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2152-2158

were used for confirmation of structure; the chemical shift and spin-spin coupling constant of the PCH_2N interaction are given for eleven of the compounds synthesized. An intense doublet at $1130\text{--}1165\text{ cm}^{-1}$ in the IR spectrum of tri(dimethylaminomethyl)phosphine is interpreted as an indication of rotational isomerism. All operations with trivalent phosphorus compounds were conducted under argon.

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USSR

UDC 547.241

MIRONOVA, Z. N., TSVETKOV, Ye. N., NIKOLAYEV, A. V., and KABACHNIK, M. I.,
Institute of Inorganic Chemistry, Siberian Branch of the Academy of
Sciences, USSR and Institute of Metalorganic Compounds, Academy of
Sciences, USSR

"Syntheses Based on Tetra(hydroxymethyl)phosphonium Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 534-538

Abstract: Reaction of tri(chloromethyl)phosphine with alkoxides of higher alcohols yields the oxides of methyldi(alkoxymethyl)phosphine which are effective extracting agents for uranium and thorium salts from sulfate solutions. It has been shown that the oxide of methyldi(methoxymethyl)-phosphine reacts with potassium hydroxide at about 150°C splitting along the phosphorus-carbon bond to yield methylmethoxymethylphosphinic acid. Higher homologues split at 200-250° forming the respective methylalkyl ether and a salt of methylalkoxymethylphosphinic acid. The acids were isolated in form of benzhydrylammonium salts.

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USSR

UDC 615.216.5.076:612.816

GIGAURI, V. S., PADALKO, V. V., MIRONOVA, Z. P., and POPOVA, YE. B., Department of Experimental Surgery, Scientific Research Institute of Clinical and Experimental Surgery, and Chair of Pathological Physiology, First Moscow Medical Institute imeni I. M. Sechenov

"Control of the Degree of Muscle Relaxation"

Moscow, Khirurgiya, Vol 3, Mar 71, pp 101-104

Abstract: Muscle relaxation during surgery is of paramount importance. The amount of muscle relaxants administered should be large enough to prevent re-appearance of muscle tonus and twitches during surgery, but it should not be so large as to complicate postoperative recovery. Since the degree of muscular relaxation is judged by clinical signs, we decided to investigate whether electromyographic records representing transmission across neuromuscular junctions might not be a more objective and precise index of the degree of muscular relaxation. For this purpose, tests were done on laboratory dogs anesthetized with modern anesthetics. Electromyograms were recorded continuously and a record of clinical signs was kept while muscle relaxants (Ditiline and Tubarine) were administered in definite doses at definite time intervals. The results showed no correlation between the clinical signs of muscular

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USSR

GIGAURI, V. S., et al., Khirurgiya, Vol 3, Mar 71, pp 101-104

relaxation and the magnitude of the electromyograms which fluctuated at random between 0 and 88%. Evidently, synaptic conductivity in peripheral muscles reflects only the local effect of the relaxants but not the relaxation of the body as a whole. Therefore, the clinical signs of muscular relaxation must still be relied upon, though they may be used in conjunction with other parameters, including electromyograms.

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1/2 027
UNCLASSIFIED
TITLE--FORMATION OF SUPRAMOLECULAR STRUCTURES IN FILMS OF CRYSTALLINE
POLYMERS -U- PROCESSING DATE--30OCT70
AUTHOR--(05)--KARGIN, V.A., SOGOLOVA, T.I., BELYY, V.A., MIRONOVICH, L.L.,
SAVKIN, V.G.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 215-18
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--MOLECULAR STRUCTURE, CRYSTALLINE POLYMER, CAPROLACTAM,
CRYSTALLIZATION, SPHERULITE, CRYSTAL STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PRUXY REEL/FRA--2000/1675 STEP NO--UR/0460/70/012/003/0215/0218
CIRC ACCESSION NO--AP0125296
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSIGN NO--AP0125296

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE NATURE OF SUPRAMOL. STRUCTURES IN CRYSTL. POLYCAPROLACTAM (1) DEPENDED ON THE PRESENCE OF HOMOGENEOUS AND HETEROGENEOUS NUCLEATION AGENTS IN I MELTS, THE RATIO OF WHICH WAS A FUNCTION OF CRYSTN. TIME AND CRYSTN. TEMP. HETEROGENEOUS CRYSTN. SITES WERE MORE HEAT RESISTANT THAN HOMOGENEOUS ONES. SPHERULITES FORMED ON HETEROGENEOUS CRYSTN. SITES HAD A MORE ORDERED CRYST. STRUCTURE.

UNCLASSIFIED

USSR

MIRONOVICH, Yu. R.

"Optimal Placement of Information Files in a Coded Information Carrier"

Nauch.-tekhn. Inform. Sb. Vses. In-t Nauch. i Tekhn. Inform. [Scientific and Technical Information. Collection of All-Union Institute for Scientific and Technical Information], 1972, Series 1, No 7, pp 39-42 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V809 by the author).

Translation: Problems of optimal placement of information files (IF) on a coded carrier are studied as functions of the retrieval strategy selected. Three particular strategies are analyzed: 1) retrieval and processing of IF with subsequent return of the carrier to its initial position; 2) retrieval and processing of IF without returning the carrier to its initial position; 3) retrieval and processing of IF on a loop carrier. The equations for mathematical expectation of access time to information files are concluded for the retrieval strategies studied and an algorithm is formulated for placement of IF to minimize the mean access time. In spite of the generality, the solutions produced are limited to the case of rational formation of the coded carrier for automatic typewriters, as well as other technical equipment for automatic processing of alpha numeric information.

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UDC 8.74

MIRONOVICH, Yu. R.

"Concerning Optimum Arrangement of Data Blocks in an Informational Medium"

Nauch.-tekhn. inform. Sb. Vses. in-t nauch. i tekhn. inform. (Scientific and Technical Information. Collection of Works. All-Union Institute of Scientific and Technical Information), 1972, ser. 1, No 7, pp 39-42, 47 (from RZh-Matematika, No 1, Jan 73, abstract No 1V809 by the author)

Translation: The paper deals with problems of optimum arrangement of data blocks on a coded carrier as a function of a selected search strategy. In particular, three strategies are analyzed: 1) search and processing of the data block with subsequent return of the carrier to the original position; 2) search and processing of the data block without return of the carrier to the original position; 3) search and processing of the data block on a ring carrier. Equations are derived for the mathematical expectation of the access time to the data blocks for the given search strategies, and an algorithm of data block arrangement is formulated which minimizes the average access time. In spite of the generality of the problem as formulated, the resultant solutions are limited to the case of rational forming of the coded

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MIRONOVICH, Yu. R., Nauch.-tekhn. inform. Sb. Vses. in-t nauch. i tekhn. inform., 1972, ser. 1, No 7, pp 39-42, 47

carrier for automatic printers, as well as other facilities for automated processing of alphanumeric information.

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USSR

UDC: 681.142

MIRONOVICH, Yu. R., Central Design and Planning Office for Mechanization and Automation

"A High-Speed Boolean Function Minimizer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 18, 1970, Author's Certificate No 271897, Filed 24 Jun 68, p 110

Abstract: This Author's Certificate introduces a high-speed Boolean function minimizer which contains logic cells, initial data input keys, and a display board. As a distinguishing feature of the patent, the manual synthesis of logic circuits is simplified by incorporating a logic module for making up the minimum forms of a two-place Boolean function. The inputs of this logic module are connected to the outputs of a two-place binary counter which is connected to the output of a controlled pulse oscillator, while the outputs are connected to some inputs of coincidence circuits whose other inputs are connected to the initial data input keys. The outputs of these keys are connected to the inputs of two OR gates for the "one" and "zero" settings respectively. The outputs of these OR gates are connected through an OR gate to the resolving input of the logic module. The outputs of the keys are
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MIRONOVICH, Yu. R., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 18, 1970, Author's Certificate No 271897, Filed 24 Jun 68, p 110

also connected to some inputs of non-equivalence cells whose other inputs are connected to the output of the OR gate corresponding to the ones setting, while the outputs are connected through AND-NOT logic gates to the inputs of the storage flip-flops, whose outputs are connected to the input buses of the display board.

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USSR

M
UDC 621.375.016.35(088.8)

USHEROVICH, B. G., MIRONOVICH, YU. R., GENKIN, I. M.

"Stabilized Amplifier"

USSR Author's Certificate No 259163, Filed 25 Apr 68, Published 23 Apr 70
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D133P)

Translation: This author's certificate introduces a stabilized amplifier containing a threshold element, filters and a DC amplifier. The amplifier is distinguished by the fact that in order to improve the reliability, a threshold element the output of which is connected to the input of the amplifier via another integrating circuit and an emitter repeater is connected to the output of the DC amplifier connected to the input of the level index via the integrating circuit.

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USSR

M UDC: 621.375.024(088.8)

USHEROVICH, B. G., MIRONOVICH, Yu. R., GENKIN, I. M., Central Planning and Design
Office for Mechanization and Automation

"A DC Amplifier"

USSR Author's Certificate No 251010, filed 25 Apr 68, published 5 Feb 70 (from
RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7D145 P)

Translation: The authors propose an amplifier which contains a threshold element
made in the form of a Shmitt trigger. To reduce the drift voltage and provide
self-tuning of the amplifier, its load impedance is shunted by series-connected
semiconductor diodes and a capacitor. The input of the Shmitt trigger is connected
in parallel with the load impedance.

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USSR

MIRONOVSKIY, L. A., Leningrad Institute of Aviation Instrumentation

"An Apparatus for Monitoring the Process of Simulating Linear Differential Equations"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazesy, Tovarnyye Znaki,
No 26, 4 Sep 72, p 118

(11) 350017 (21) 1490120/18-24 (22) 23.10.70 (51) G 06g 7/38 (53) 681.333:51
(71) Leningrad Institute of Aviation Instrumentation (72)

(54) An apparatus for monitoring the process of simulating linear differential equations, containing a switch, an adder whose inputs are connected through a constant coefficients circuit to the input terminals of the apparatus, while its outputs are connected to the output terminals of the apparatus, and a sequentially connected primary constant coefficients unit, integrator, inverter, and secondary constant coefficient unit, is distinguished by the fact that monitoring accuracy is improved by connecting the output of the integrator and the output of the inverter through a switch to the input of the primary constant coefficient unit, while the output of the secondary constant coefficient unit is connected to one of the inputs of the adder.

Attached to declaration No 1490056/18-24

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UNCLASSIFIED
PROCESSING DATE--13NOV70
TITLE--LITHOLOGICAL CHARACTERISTICS OF THE MIDDLE LIMESTONE CARBONATE
MARKER BED IN THE EASTERN PART OF THE RUSSIAN PLATFORM --
AUTHOR--MIROPOLSKAYA, G.L.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(1), 176-9
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--LITHOLOGY, CARBONATE, LIMESTONE, ROCK
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1999
CIRC ACCESSION NO--AT0134834
STEP NO--UR/0020/70/192/001/0176/0179
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133834

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEVERAL INTERLAYERS OF CARBONATE ROCKS, USED AS MARKER BEDS, ARE KNOWN IN THE DEVONIAN TERRIGENOUS STRATUM OF THE TITLE TERRITORY. THE TITLE BED IS SITUATED IN THE LOWER PART OF THE CARBONATE SHALE LAYER TERMINATING THE SECTION OF STARO OSKOL'SK HORIZON OF THE GIVETAIN FORMATION. THE CARBONATE COMPN. OF THE BED IS VARIABLE. THE REPLACENTN OF LIMESTONES BY DOLOMITE ANKERITE, THEN SIDERITE WAS OBSD. FROM SOUTH TO NORTH. LIMESTONES CONTAIN SECONDARY FORMATIONS: SEGREGATIONS OF CALCITE ANDPYRITE IN FRAGMENTS AND REMNANTS OF FAUNA AND OCCASIONALLY IN FRACTURES AND PROES; SPOTS OF BROWN ORG. SUBSTANCES (BITUMEN); AND DOLOMITIZATION, USUALLY ACCOMPANIED BY MORE INTENSE BITUMINIZATION. THE BED WAS FORMED BY THE ACCUMULATION OF CALCAREOUS MUDS AND THE BUYING OF NUMEROUS FRAGMENTS AND REMNANTS OF FAUNA IN THE OPEN SHALLOW SEA HAVING NORMAL SEA WATER S. LINITY. THE PRESENCE OF LARGE AMTS. OF ORG. SUBSTANCE OF PETROLEUM SERIES AND ITS MIGRATION PROMOTED REDISTRIBUTION OF THE MG AND THEN THE FE SALTS WITH PARTIAL OR ENTIRE REPLACEMENT OF CALCITE BY DOLOMITE, ANKERITE, AND SIDERITE. FACILITY: GEOL. INST., KAZAN, USSR.

UNCLASSIFIED

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UDC 547.415.1+547.298.1

TOLKACHEV, V. N., ~~MIROPOL'SKAYA, M. A.~~ and SAMOKHVALOV, G. I., All-Union Vitamin Scientific Research Institute

"Lipids With a Phosphamide Bond. II. Synthesis of N-Palmitoyl-N'-(O- β -trimethylammonioethylphosphoryl)putrescine Chloride"

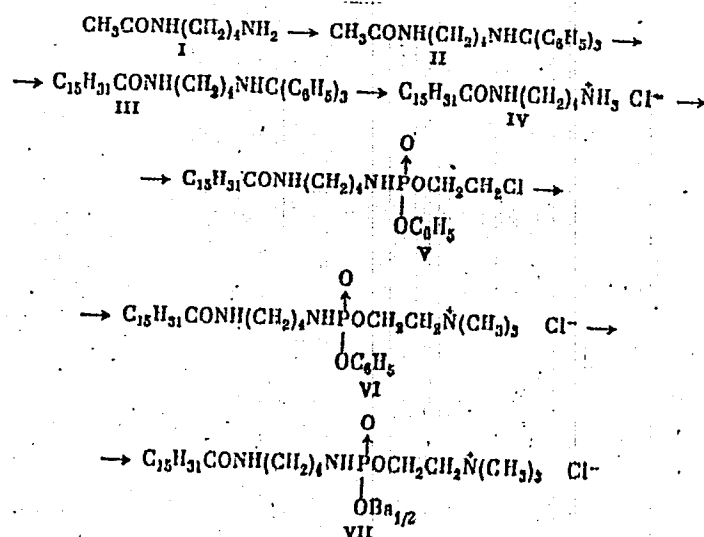
Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 454-456

Abstract: As a stage in development of a scheme for synthesizing choline phosphamide of monoacetylputrescine, the authors describe synthesis of N-palmitoyl-N'-(O- β -trimethylammonioethylphosphoryl)putrescine chloride, one of the representatives of polyamines which contain the phosphamide bond.

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TOLKACHEV, V. N., et al., Zhurnal Obshchey Khimii, Vol 42(103, No 2, Feb 72, pp 454-456



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TOLKACHEV, V. N., et al., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 454-456

The reaction utilizes the monotrityl derivative of putrescine obtained from N-acetylputrescine by a method analogous to that developed for synthesizing subaphilin. Removal of the acetyl radical by alkaline hydrolysis frees one amide group, and subsequent treatment with palmitic acid chloride yields N-palmitoyl-N' -trityl derivative. Removal of the trityl block with 50% acetic acid and condensation of the monopalmitoylputrescine with 8-chloro-ethylphenylphosphoryl chloride and then with trimethylamine leads to a quaternary ammonium salt. Hydrolysis in alkaline conditions yields the end product in the form of a barium salt.

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1/4: 020
UNCLASSIFIED
TITLE--THEORY OF THE ACTIVE LAYER OF THE OCEAN -U-
AUTHOR-(02)-KITAYGORODSKIY, S.A., MIROPOLSKIY, YU.Z.
COUNTRY OF INFO--USSR
SOURCE--INSTITUTE OF OCEANOLOGY; MOSCOW, IZVESTIYA AKADEMII NAUK SSSR,
FIZIKA ATMOSFERY I OKEANA, VOL VI, NO 2, 1970, PP 178-179
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--OCEAN SURFACE TEMPERATURE, OCEAN, HEATING, OCEAN DEPTH,
THERMOCLINE, SURFACE BOUNDARY LAYER, WIND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1714

STEP NO--UR/0362/70/006/002/0178/0179

CIRC ACCESSION NO--AP0123525

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UNCLASSIFIED

PROCESSING DATE--23OCT70

2/4 020

CIRC ACCESSION NO--AP0123525

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTIVE LAYER OF THE OCEAN IS THAT LAYER OF WATER FROM THE SURFACE TO THE DEPTH BELOW WHICH THERE IS NO DETECTABLE ANNUAL TEMPERATURE VARIATION. THE LOWER BOUNDARY OF SUCH AN ACTIVE LAYER H IN THE TEMPERATURE LATITUDES IN THE OPEN OCEAN IS USUALLY SITUATED AT A DEPTH OF 200-250 M. THE WATER TEMPERATURE T SUBH AT THESE DEPTHS VARIES NOT MORE THAN 0.5-1 DEGREES DURING THE COURSE OF THE YEAR. HOWEVER, AT THE OCEAN SURFACE THE AMPLITUDE OF ANNUAL WATER TEMPERATURE VARIATIONS CAN ATTAIN 8-10 DEGREES C. THE CHARACTERISTIC SEASON TEMPERATURE VARIATIONS T SUBS AT THE SEA SURFACE AND THE HEAT FLUX Q SUBS THROUGH THE OCEAN ATMOSPHERE DISCONTINUITY ARE SHOWN IN FIGURE 1 IN THE TEXT. BETWEEN APRIL AND SEPTEMBER (THE PERIOD OF SPRING SUMMER HEATING WHEN Q SUBS IS GREATER THAN 0) THERE IS AN INCREASE IN THE TEMPERATURE OF SURFACE WATERS AND FROM THE BEGINNING OF AUTUMN TO FEBRUARY (PERIOD OF AUTUMN WINTER COOLING WHEN Q SUBS IS GREATER THAN 0) THE WATER TEMPERATURE DECREASES. DURING THE PERIOD OF OCEAN HEATING THE WATER TEMPERATURE DROP T SUBS-T SUBH BECOMES SO GREAT THAT IT BEGINS TO EXERT AN INFLUENCE ON THE EFFECTIVE HEAT CONDUCTIVITY OF THE ACTIVE LAYER. IF THE PRINCIPAL SOURCE OF ENERGY OF VERTICAL MIXING ACTS ONLY FROM THE OCEAN SURFACE (WIND), AT SOME DEPTH THE PRESENCE OF A DENSITY GRADIENT (OR T SUBS-T SUBH) CAN LEAD TO A TOTAL ATTENUATION OF THE ENERGY CONTAINING COMPONENTS OF VERTICAL TURBULENCE.

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PROCESSING DATE--23OCT70

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CIRC ACCESSION NO--AP0123575

ABSTRACT/EXTRACT--THIS REGION OF DEPTHS WILL CORRESPOND TO THE REGION OF CRITICAL VALUES OF THE RICHARDSON NUMBER (RI) AND IT IS THERE THAT A DISCONTINUITY FORMS BETWEEN THE UPPER TURBULENT ZONE OF THE OCEAN AND THE REMAINING PART OF THE ACTIVE LAYER. THE POSITION OF THE LOWER BOUNDARY OF THE QUASIHOMOGENEOUS LAYER CAN CHANGE CONSIDERABLY DURING THE YEAR (FROM MONTH TO MONTH). AMONG THE PRINCIPAL FACTORS DETERMINING THESE CHANGES ARE: CHANGE IN OCEAN SURFACE TEMPERATURE T_{SUBS} DURING THE YEAR AND CHANGES IN THE CONDITIONS OF DYNAMIC MIXING IN THE UPPER LAYER CAUSED PRIMARILY BY CHANGES IN THE WIND REGIME OVER THE SEA. THE ROLE OF THE FIRST FACTOR WILL BECOME OBVIOUS IF IT IS TAKEN INTO ACCOUNT THAT THE RI VALUES AT ANY DEPTH Z ARE DEPENDENT ON $T_{SUBS}-T_{SUBH}$ SO THAT EVEN WITH A CONSTANT (IN TIME t) INFLUX OF MECHANICAL ENERGY INTO THE UPPER LAYER OF THE OCEAN THE POSITION OF THE DISCONTINUITY BETWEEN THE MIXED LAYER AND THE SEASONAL THERMOCLINE (WHERE RI IS SIMILAR TO RI_{SUBCR}) MUST BE DEPENDENT ON $T_{SUBS}(t)$. ON THE OTHER HAND, THE INFLUENCE OF THE SECOND FACTOR ON THE TEMPERATURE PROFILE IS DETERMINED PRIMARILY BY THE LOCAL CONDITIONS OF THE WIND REGIME OVER THE SEA AND IN ESSENCE COULD BE DESCRIBED WITHIN THE FRAMEWORK OF THE THEORY OF A QUASISTATIONARY BOUNDARY LAYER. THE ABOVE APPLIES PRIMARILY TO THE PERIOD OF SO CALLED SPRING SUMMER HEATING OR TO THE PERIOD OF FORMATION OF THE SEASONAL THERMOCLINE. WITH THE ONSET OF AUTUMN THE CONTRIBUTION TO VERTICAL MIXING IS NOT ONLY FROM THE WIND (SOURCE OF MECHANICAL ENERGY), BUT ALSO FROM CONVECTION, FORMING AS A RESULT OF HEAT TRANSFER FROM THE OCEAN SURFACE TO THE ATMOSPHERE.

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PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123525

ABSTRACT/EXTRACT--DURING THIS PERIOD OF CONVECTIVE WIND MIXING (AUTUMN WINTER COOLING) THERE IS A DESTRUCTION OF THE SUMMER THERMOCLINE DUE TO A DEEPENING OF THE QUASIHOMOGENEOUS LAYER AND BY THE END OF FEBRUARY ALMOST ALL THE ACTIVE LAYER BECOMES ISOTHERMAL. THE UNSTABLE TEMPERATURE STRATIFICATION IN THE UPPER LAYER OF THE SEA, DUE TO ITS CONTINUING TURBULENCE (CONVECTIVE WIND OR PURELY CONVECTIVE) USUALLY IS ALSO DESTROYED VERY RAPIDLY AND VIRTUALLY ALWAYS DURING THE PERIOD OF AUTUMN WINTER COOLING THERE IS A QUASIHOMOGENEOUS LAYER SO THAT THE TWO LAYERED STRUCTURE OF THE ACTIVE LAYER OF THE OCEAN ALSO PERSISTS AT THAT TIME. SECTIONS 2, 3 AND 4 IN THIS PAPER ARE DETAILED GENERALIZATIONS OF THE FOLLOWING: VERTICAL TEMPERATURE PROFILES IN THE SEASONAL THERMOCLINE, SAMPLE THEORETICAL COMPUTATION OF THE SEASONAL VARIATION OF THICKNESS OF THE QUASIHOMOGENEOUS LAYER AND PROCESSES IN VERTICAL TURBULENT MIXING IN THE SEASONAL QUASIHOMOGENEOUS LAYER.

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USSR

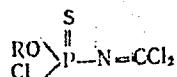
UDC 547.26

IVANOVA, ZH. M., GUSAR', N. I., MIROSHICHENKO, V. V., SAMARAY, L. I.,
Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR

"A Method of Making Triphosphoric Acid Isocyanide Dichlorides"

Moscow, Otrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye
Znaki, No 15, Apr 73, Author's Certificate No 374321, Division C, filed 25
Jun 71, published 20 Mar 73, p 52

Translation: This Author's Certificate introduces: 1. A method of making
triphosphoric acid isocyanide dichlorides of the general formula



where R is an alkyl. As a distinguishing feature of the patent, an alkyl
dichlorophosphite is reacted with N-chlorosulphenyl isocyanide dichloride with
subsequent isolation of the goal product by conventional methods. 2. A
modification of this method distinguished by the fact that the alkyl dichloro-
phosphite and N-chlorosulphenyl isocyanide dichloride are taken in a molar
ratio of 2:1. 3. A modification of this method distinguished by the fact
that the process is done at 40-50°C.

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USSR

MIROSHIN, R. N.

"Convergence of Rice Series for Analytic Gaussian Stable Processes Over Slight Time Intervals"

Vestn. Leningr. Un-ta [Herald of Leningrad University], 1973, No 7, pp 104-108 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V40)

Translation: Suppose ζ_t , $M\zeta_t = 0$ is an analytic Gaussian stable process. Suppose n_T is the number of zeros in ζ_t in sector $[0, T]$, $T < \infty$. It is proven that Rice series

$$P(n_T = 0) = \sum_{m=0}^{\infty} \frac{(-1)^m}{m!} N_m(T),$$

where $N_m(T) = M n_T(n_T - 1) \dots (n_T - m + 1)$, as $T \rightarrow 0$ for the process in question is asymptotic.

For processes with limited spectrum and correlation functions

$p_t = e^{-\frac{\alpha^2 t^2}{2}}$ and $p_t = (\alpha^2 + t^2)^{-1}$, it is proven that this asymptotic

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USSR

MIROSHIN, R. N., Vestn. Leningr. Un-ta, 1973, No 7, pp 104-108

series converges absolutely and evenly where $0 \leq T \leq A$, where A depends on the correlation function. Similar statements also obtain for the series

$$P(n_T > n) = \sum_{m=n}^{\infty} (-1)^{m-n} \frac{(m-1)!}{(n-1)!(m-n)!} \frac{N_m(T)}{m!}$$

Author's view

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UDC: 533.601.18

USSR

ALEKSEYEVA, Ye. V., MIROSHIN, R. N.

"Two-Component Statistical Model of Processing of an Experiment in a Rarefied Gas"

Aerodinamika Razrezh. Gazov [Aerodynamics of Rarefied Gases -- Collection of Works], No 6, Leningrad University Press, 1973, pp 5-8 (Translated from Referativnyy Zhurnal Aviatsionnyye i Raketnyye Dvigateli, No 9, 1973, Abstract No 9.34.11)

Translation: A plan is suggested for processing of experimental data for the aerodynamic factors C_x , C_y based on the hypothesis of locality. In contrast to plans studied earlier, statistical independence of C_x from C_y is not assumed; therefore, the vector (C_x, C_y) is processed. The empirical factors are selected and calculated according to experimental data for (C_x, C_y) as functions of angle of attack measured in a low-density wind tunnel at $M=5$, $Re_D=28$ with a series of cones with various degrees of blunting and solid angles. When independence of C_x and C_y was not assumed, the number of empirical coefficients was reduced, while the accuracy was retained. 4 Biblio. Refs.

Resume

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USSR

MIROSHIN R. N.

"Asymptote of Second Moment of Number of Intersections of Line $kt + a$ by Gaussian Stable Process"

Vestn. Lennigr. Un-ta. [Herald of Leningrad University], 1972, No 19, pp 106-112 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V118 by the author).

Translation: The Gaussian stable process ξ_t , $M\xi_t = 0$, is called a $(2, \beta)$ process if it has a continuous component in its spectrum, while its correlation function $B(\tau)$ satisfies the conditions $|B''(0)| < \infty$ and $\lim_{\tau \rightarrow 0} \frac{B''(\tau) - B''(0)}{\tau^\beta} = c$, $0 < c < \infty$. The main term of the asymptote of the second factorial moment N_2 of the number of intersections in sector $[0, T]$ of line $kt + a$ with ξ_t where $\alpha = k^{-1} \sqrt{-B''(0)} \rightarrow 0$ is found for the $(2, \beta)$ process. The asymptote depends strongly on behavior as $\alpha \rightarrow 0$ of the mean number of intersections of $kt + a$ with ξ_t . All possible cases are discussed for $\beta < 2$ and

$\lim_{\alpha \rightarrow 0} \frac{Tk}{\sqrt{B(0)}} > 0.1$. When this last inequality is not satisfied, an estimate

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